0.00

Memo

Packaging

Packaging

									DQA:	Date:	
NCR: Yes	s / No				WORK ORDER NON-C	CONFORM	MANCE / UF	PDATE	QA Closed:	Date:	
Work Order:					DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part No.				· · · · · · · · · · · · · · · · · · ·	Rework Scrap		Skid-tube Machining	Crosstube Small Fab		Water Jet	Engineering Quality
NCR No.			<u>.</u>		Use-as-is Work Order Update] Therm	noforming Large Fab	Finishing Composite	Rec/Sto	re/Packaging Supplier	Other
Root				Descri	ption of work order update	Initial	A	ction	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief Eng	Des	cription	Date	Verification	QC Inspector
oc/Data quip/Tooling	-										
perator	1										
Naterial	1										·
etup											
ther]										
rocess		ļ	;								
upplier				·							
raining	1										

Cuffs Maintenance Contamination Part Moved Heat Treat Countersink Mislabeled Positioned Wrong Misread Inspection Strip in Tube Cut Too Short Other Power Loss/Surge Ripples in Bend Drill Holes Offset Torque Waves in Extrusion Drawing Out of Calibration Turning Sequence Finish Out of Sequence Wave/Twist in Tube Folio Outside Dimensions

FAULT CATEGORY

Grain

Hardware

Inspection Incomplete

Instructions Incomplete/Unclear

Ovalized

Part Incorrect

Part Lost/Missing

Over/Under tolerance

Pressure/Forced

Weld

Temperature/Cure

Wrong Stock Pulled

General

Bend

Burrs

BOM/Route

Broken/Damaged

Unapproved

Landing Gear

Bending

Cracks

Crushed/Crimped.

Centre Not Concentric to O/S

Work Orde November-19-12				*933	846*						Page 2
Revision ID:	D4148-041 Crosstube Lu	ng Assembly, Fwd		Accept	*N900	040	100)* s	Setup Star	1.7	S1* S2*
Start Date: Required Date: Reference:	11/19/12 11/30/12	Start Qty: 5.00 Req'd Qty: 5.00	*5* *5*		Cust Item I Customer:	D:					
Approvals:	Process Pl	lan:	Date:	Tooling:	Da	ate:		F	Run Star	17	R1*
			Date:	SPC (Y/N):	Da	ate:			Stop	ˈ *N	R2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		QC21- Final Inspection	Work Order Release	0.00					. 1	1	10
130 QC		Memo		0.00					13/1	100	8 -
Quality Control										/	/
			•						HIB	-01-8	•

									DQA:	Date:	
NCR: Ye	es / No			WO	RK ORDER NON-C	ONFOR	MANCE / UP		QA Closed:	Date:	
Work Order	:				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part No)			v	Rework Scrap Use-as-is Vork Order Update		Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root				Description of	work order update	Initial	Ac	tion	Sign &		
Cause	Date	Step	Qty	or Non-	conformance	Chief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling											
Operator											
Material						1					
Setup										:	
Other											
Process		•						:			
Supplier											
Training											
Unapproved											·

FAULT CATEGORY

General

L	Bending	Bend	Grain	Ovalized	Г	Pressure/Forced
	Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance		Temperature/Cure
	Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect		Weld
	Crushed/Crimped.	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Г	Wrong Stock Pulled
L	Cuffs	Contamination	Maintenance	Part Moved	-	•
	Heat Treat	Countersink	Mislabeled	Positioned Wrong		
	Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge		Other
	Ripples in Bend	Drill Holes	Offset	•		
	Torque Waves in Extrusion	Drawing	Out of Calibration			
	Turning Sequence	Finish	Out of Sequence			
Γ	Wave/Twist in Tube	Folio	Outside Dimensions			

Landing Gear

November-19-12 8:												- ———	11
Work Order ID:	93346							Stan	t Date: 11/19/	12	Doguired D	ate: 11/30/12	4
Parent Item:	D4148-041	bl								12	-		1
Parent Item Name:	Crosstube Lug Asse	embly, rwa						Sta	rt Qty: 5.00		Required (ety: 5.00	
Comments:	IPP Rev:A 10.06.2 IPP Rev:B 10.07.2 DD verf:EC	22 as per revB D	D verf:JL		IPP Rev: S PER DWG REV	C 10.10.29 as V.D DD VEF							
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location		Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Sta Issued	atus
MS21043-3 Nut		Purchased	No			100	Each	643.0000	4 12	3899	v jo		
				Location		Loc Qty	Lo	oc Code			•		
				FG		72			***				
					103691	72							
				ST301		99							
•					118077	2							
					118614	7							
					118686 119758	30 20							
					121255	20							
					121708	20							
				ST315		472							
					122993	145							
					123525	327							
MS21043-4		Purchased	No			100	Each	1,436.0000) 1	15	JB	12/12/	101
				Location		Loc Qty	<u>L</u>	oc Code					
				FG		36							
					104603	36							
				ST301		269							
					119546	2							
					121162	25							
				CT214	121652	242							
				ST314	123525	500 500							
				ST315	123323				12	3525	•		
				21313	123021	500 500			<u>, , , , , , , , , , , , , , , , , , , </u>				
				CT210	123021					<u> </u>			
				ST318		131							

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	VFORI	MANCE / UP	DATE		-	
-											QA Closed:	Date:	
Work Ord	ler:					DISPOSITION				AGAINST D	EPARTMENT	/PROCESS	
Work Ore						Rework	٦		Skid-tube	Crosstube	7	Water Jet	Engineering
Part	No.					Scrap		1	Machining	Small Fab	Pro	d. Eng. Coor.	Quality
						Use-as-is]	Thern	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR	No.					Work Order Update]		Large Fab	Composite		Supplier	
Root			I		Descri	ption of work order update		Initial	Ac	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	1	ief Eng		ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling	3 <u> </u>		1										
Operator] 		1						
Material							ŀ		,				
Setup													
Other													
Process													
Supplier													
Training	_						1						
Unapproved]	
							AUL	T CATE	GORY				
Land		1			_	General	_	1		_	-	_	 -
	-	Bending				Bend	_	Grain		<u> </u>	Ovalized	<u>_</u>	Pressure/Forced
	<u>_</u>	Centre N	ot Concer	ntric to	o/s	BOM/Route	\perp	Hardwa			Over/Under	 	Temperature/Cure
		Cracks				Broken/Damaged		Inspect	ion Incomplete		Part Incorre	ct	Weld
Crushed/Crimped Burrs						Instruct	ions Incomplete/	Unclear	Part Lost/M	issing	Wrong Stock Pulled		

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Part Moved

Positioned Wrong

Power Loss/Surge

Other

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cuffs

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

November-19-12 8:56:07 AM

93346 Work Order ID: Start Date: 11/19/12 Required Date: 11/30/12 D4148-041 Parent Item: Required Oty: 5.00 Parent Item Name: Crosstube Lug Assembly, Fwd Start Otv: 5.00 D2690-6 Nο 100 Each 18.0000 5 Manufactured Lanyard Assembly Loc Otv Loc Code Location GA 3 91957 ST014 15 90568 3 91642 92559 92739 100 33.0000 Each D3910-1 Manufactured No Crosstube Lug Location Loc Oty Loc Code ST144 33 81474 2 81270 87270 30 89772 5 / 2B 100 Each 14.0000 D4091-1 No Manufactured Mounting Lug Location Loc Otv Loc Code ST144 14 81604 14 81004 D4148-1 No 100 Each 9.0000 Manufactured Crosstube Lug Plate, Fwd Loc Qty Location Loc Code ST144 2 85753 92488

Stud Receiver, Lower

Manufactured

100

Each

0.0000

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFOR	MANCE / UPI	DATE	•		
							 -				QA Closed:	Date:	
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part !	No.					Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR	No.					Work Order Update	_]		Large Fab	Composite		Supplier	
Root Cause		Date	Step	Qty		ription of work order update or Non-conformance		nitial nief Eng		ion	Sign & Date	Verification	QC Inspector
oc/Data		Dute	Step	Qty		or worr comormance	+	iici Liig	Desci	трегоп	Date	Vermedelon	QC IIISPECTOI
quip/Tooling													
perator	_												
⁄Iaterial													
etup													
ther													
rocess									-				
upplier													
raining													
napproved													
							FAUL	T CATE	GORY				
Landi	ng (Gear			_	General		,			,		-
		Bending			<u> </u>	Bend		Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route	\perp	Hardwa	_		Over/Under	·	Temperature/Cure
		Cracks				Broken/Damaged		1	on Incomplete		Part Incorred	 	Weld
		Crushed/0	Crimped.			Burrs	L	4	ions Incomplete/l	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	<u> </u>	Cuffs				Contamination	Maintenance			Part Moved			
	_	Heat Trea			<u> </u>	Countersink	Mislabeled			<u> </u>	Positioned V	_	-
	_	Inspection		Tube		Cut Too Short	Misread				Power Loss/	Surge	Other
		Ripples in			<u> </u>	Drill Holes	_	Offset					
	_	Torque W		xtrusio	ո _	Drawing		4	Calibration				
	Turning Sequence Finish						Out of 9	Sequence					

Outside Dimensions

Wave/Twist in Tube

Folio

November-19-12 8:56:07 AM

Work Order ID:	93346									
arent Item:	D4148-041							Date: 11/19/12		Required Date: 11/30/12
arent Item Name:	Crosstube Lug Asse	embly, Fwd					Start	Qty: 5.00		Required Qty: 5.00
04148-5 Eyebolt Stud		Manufactured	No		100	Each	3.0000	1	5	Ja/12
				Location	Loc Oty		Loc Code			20
				GA	3					572732
				90162	3					B9418
N3GI2A		Purchased	No		100	Each	164.0000	2	10	- ga
				Location	Loc Qty		Loc Code			•
				ST351	164					
				117514	4					
				118112	5		·			
				118451	22					
				119510	1					
				120423	4					
				121259	2					
				121689	5					•
				122416	21					
				123648	100			123	648	
N4GI3A OLT		Purchased	No		100	Each	27.0000	123	900	733
				Location	Loc Qty		Loc Code			
				ST356	20					
				122808	. 20					
				ST357	7					
				121827	3			-		
				122141	4					
IS17984:C413		Purchased	No	,	100	Each	11.0000	1		/
IN, QUICK RELEASI	Ξ	Purchased	710				11.000	123	901	10 12/1
				Location	Loc Qty		Loc Code			•
				ST331	11					
				114340	1					
				118612	2					
				123346	8					

											DQA	۱: Da	te:	
NCR:	Yes	/ No				WORK ORDER NON-	100	NFORN	/ANCE / UPI	DATE			•	
											QA Close	d: Da	te:	
Work Ord	er.					DISPOSITION				AGAINST DE	PARTMEN	T/PROCESS		
Part I	No.					Rework Scrap Use-as-is Work Order Update	Therm	Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite nitial Action			Water Jet od. Eng. Coor. ore/Packaging Supplier		Engineering Quality Other	
Root					Descri	ption of work order update		Initial	Act	ion	Sign &			
Cause		Date	Step	Qty	(or Non-conformance	Ch	nief Eng	Descr	ription	Date	Verificatio	n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved														
						·····	AUL	T CATE	GORY					
Landi		Bending Centre No Cracks Crushed/ Cuffs Heat Trea	Crimped, it n Strip in		o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short		Instructi Mainte Mislabe Misread	on Incomplete ions Incomplete/U nance Ied	Jnclear	Ovalized Over/Und Part Incor Part Lost/ Part Move Positioned Power Los	Missing ed I Wrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
		Ripples in Bend			1	Drill Holes	1	Offset						

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

November-19-12 8:56:07 AM

Work Order ID:	93346									
Parent Item:	D4148-041					Start D	ate: 11/19/12	!	Required Date:	11/30/12
Parent Item Name:	Crosstube Lug Assembly, Fwd					Start (Qty: 5.00		Required Qty:	5.00
MS20615-4M18	Purchased	No		100	Each	184.0000	8	40	73	
		Loca	<u>tion</u>	Loc Qty		Loc Code				
		312		7						
			122452	7						
		322		3						
			121349	3						
		ST31	2	157			123	390		
			123390	157						
		ST31	5	2						
			122141	2						
		ST32	2	15						
			121444	15						
WS1149E0332R	Purchased	No		100	Each	1,440.0000	4	20	28	
Vasher							123	75 ²⁰	- J-	
		Loca	tion	Loc Qty		Loc Code				•
		ST29	2	1440						
			123248	65						
			123355	1375						
VAS1149@0432R Washer	Purchased	No ,		100	Each	4,020.0000	6	30	- 7B	12/1
		Loca	<u>ition</u>	Loc Qty		Loc Code				·
		296		3000						
			122441	3000						
		ST29	97	886						
			117291	40				<u>.</u>		
			119124	846			110	0.11		
		ST29	98	134			1191	24		
			121255	134						

											DQA:	Date	:
NCR:	Yes	/ No				WORK ORDER NON-C	O	NFORM	MANCE / UP	DATE			
											QA Closed:	Date	:
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part				-		Rework Scrap Use-as-is		ſ	Skid-tube Machining noforming	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR	No.					Work Order Update]		Large Fab	Composite		Supplier	
Root					Descri	otion of work order update		Initial	Act	tion	Sign &		
Cause		Date	Step	Qty	c	or Non-conformance	Ch	ief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling							1						
Operator													
Material										•	:		
Setup	П												
Other							1						
Process													
Supplier													
Training												ľ	
Unapproved													
						F	AUL	T CATE	GORY				
Landi	ing (Gear				General		_			_	_	
[Bending				Bend		Grain			Ovalized	Γ	Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte			Part Moved	•	
		Heat Trea	it			Countersink		┥			Positioned Wrong		
		Inspection Strip in Tube				Cut Too Short		Microan	4		Power Loss	Surgo [Othor

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

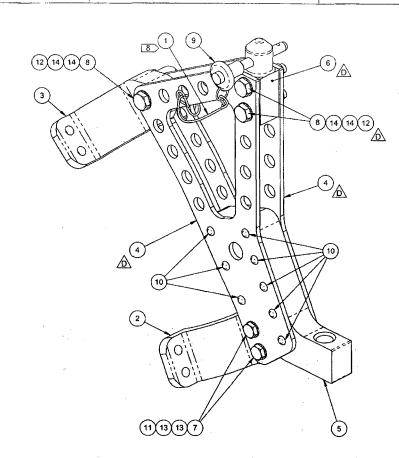
Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G



	ITEM	QTY -041	P/N	DESCRIPTION ·
	1	Х	D4148-041	FWD X-TUBE LUG ASSY
İ	1	1	D2690-6	LANYARD
Į.	2	1	D3910-1	X-TUBE LUG
	3	1	D4091-1	MOUNTING LUG
Г	4	2	D4148-1	FWD X-TUBE LUG PLATE
	5	1	D4148-3	STUD RECEIVER LOWER
<u></u>	6	1	D4148-5	EYEBOLT STUD
1	7	2	AN3C12A	BOLT
	8	3	AN4C13A	BOLT
\D\	9	1	MS17984-C413	PIP PIN
	10	8	MS20615-4M18	RIVET
	11	2	MS21043C3	NUT
<u> </u>	12	3	MS21043C4	NUT
	13	4	NAS1149C0332R	WASHER
<u> </u>	14	6	NAS1149C0432R	WASHER

SHOLCOPY. RUTURNITO ENGINEERING UNCONTROLLED COPY SUBJECTITO AMENDMENT WITHOUT SEATICE WORK ORDER NO 93346 MLJ 12-11-19

D	HOLE DIA CHANGED TO 0.252" (Db-3); HOLE DIA CHANGED TO 0.250" (Cb-5); REPLACED QTY(2) AN3C12A, MSC1043C3 AND QTY(4) AAS1149C0332" WITH QTY(2) SC 11.02.22 AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1.C4-2)					
С	REDESI ISSUES	EDESIGNED D4148-1/-3 TO ADDRESS COMPATIBILITY MB 10.10.12				
. В	REPLACED GTY(3) MS20815-4M18 WITH GTY(2) EACH AN3C12A, MS21043-3 AND GTY(4) NAS1149C0332R WASHER (2N D3-1, B7-2 & B4-2), MS20615-4M18 WAS MS20815-4M20 (2N D3-1, & B7-2); Ø0.191 2 PL REPLACES MS20815-4M20 (2N D3-1); Ø0.129 7 PL WAS 10 PL (ZN A7-3); Ø0.129 3 PL (2N D4-3); Ø0.129 FL WAS 10 PL (ZN A7-3); Ø0.191 WAS 0.129 (ZN C8-5), REASON: SEE TR-0350-6072 REV. 8.					
Α	NEW ISSUE			мв	10.06,18	
REV.		DESCRIPTION BY DATE			DATE	
DESIGN		MB	DART AEROSPACE LTD			
DRAWN		sc	HAWKESBURY, ONTARIO, CANADA			
CHECKED		1	DRAWING NO.	-	REV. D	

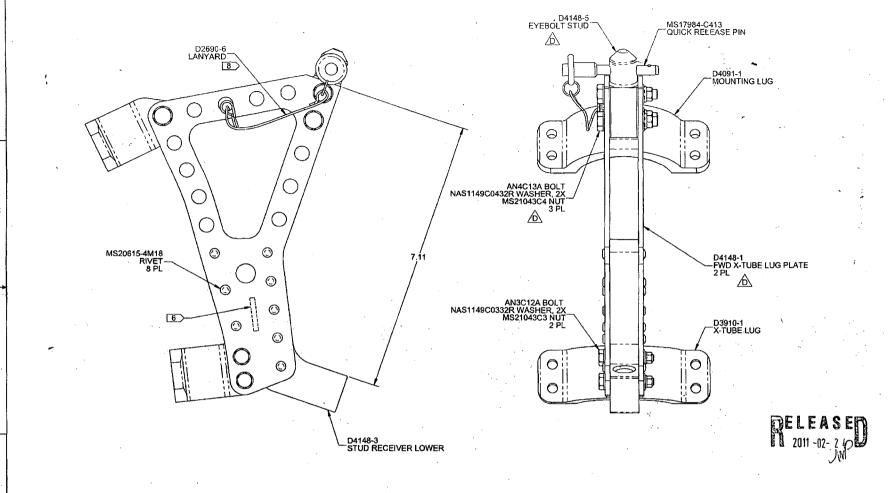
D4148 MFG. APPR. SHEET 1 OF 5 APPROVED SCALE FWD X-TUBE LUG ASSY
COPYRIGHT © 2010 BY DART AEROSPACE LTD DE APPR. DATE 11.02.22

D4148-041 FWD X-TUBE LUG ASSY

D

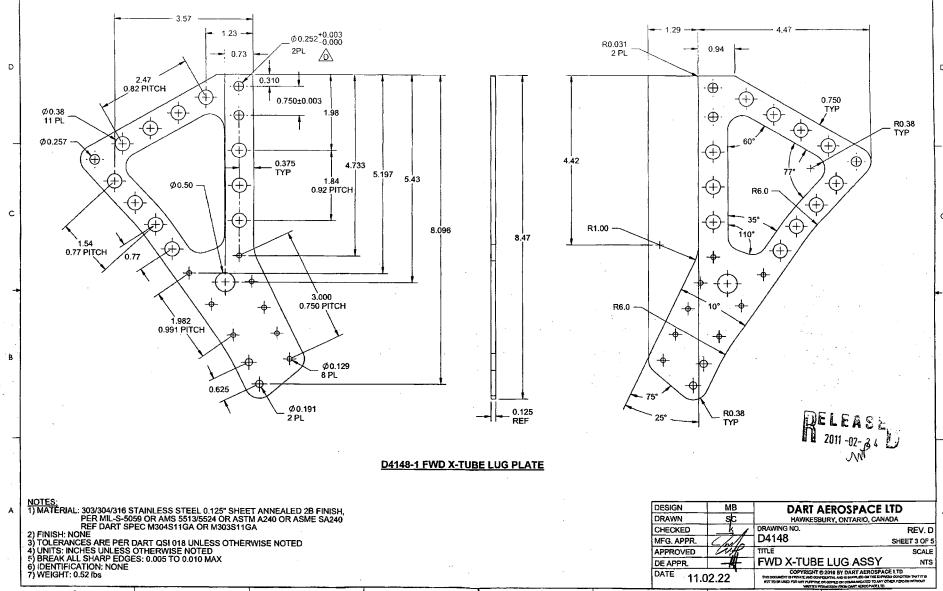
С

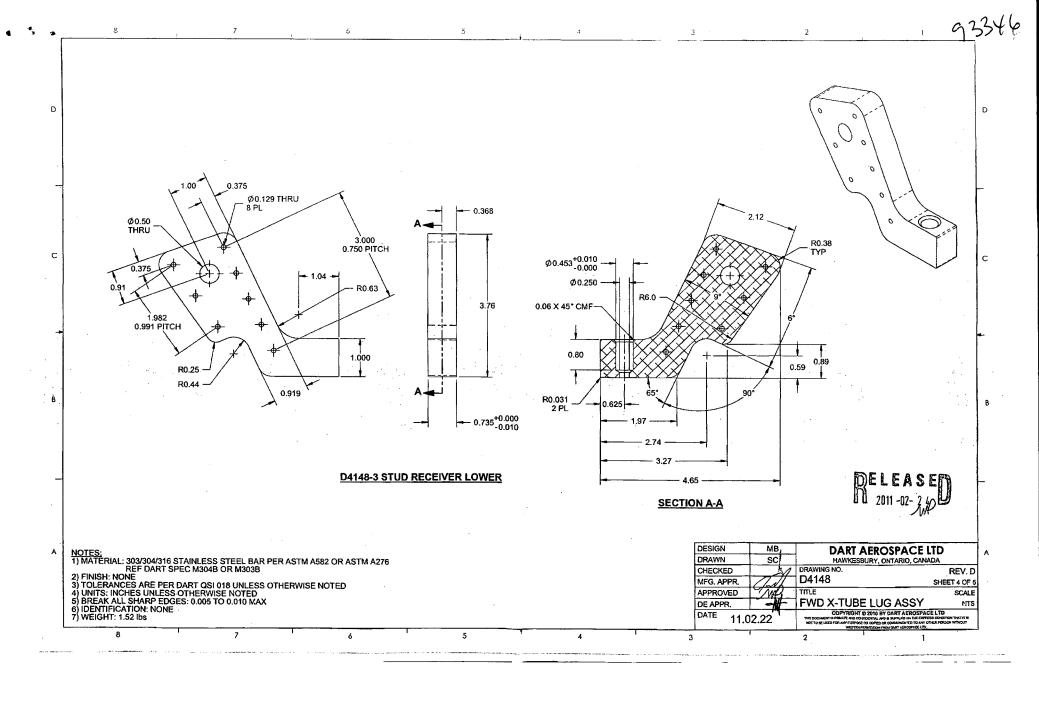
NOTES:
1) MATÉRIAL: N/A
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4148-041" PER DART QSI 044 6.1
7) WEIGHT: 3.67 Ibs
8) ATTACH D2690-6 TO D4148-1 BY LOOPING AROUND A LIGHTENING HOLE FIRST AND THEN SECURE TO MS17984-C413

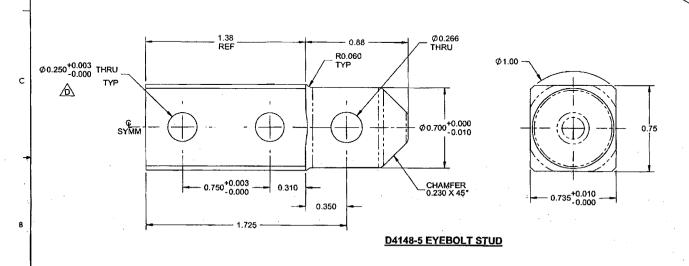


D4148-041 FWD X-TUBE LUG ASSY

DESIGN	МŖ	DART AEROSPACE LTD		
DRAWN S¢		HAWKESBURY, ONTARIO, CANADA		
CHECKED	4/	DRAWING NO.	REV. D	
MFG. APPR.	21	D4148	SHEET 2 OF 5	
APPROVED	Just .	TITLE	SCALE	
DE APPR.	-#-	FWD X-TUBE LUG ASSY	NTS	
DATE 11.0	2.22	COPYRIGHT @ 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND OWNED THE LEVEL OF THE SERVEL OF THE ART OF THE SERVEL OF T		







NOTES:
1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A582 OR ASTM A276 REF DART SPEC M304B OR M303B
2) FINISH: NONE
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: 0.27 lbs

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	sc	HAWKESBURY, ONTARIO, CANADA	
CHECKED	1	DRAWING NO.	REV. D
MFG. APPR.	Tools	D4148	SHEET 5 OF 5
APPROVED	Diff.	TITLE	SCALE
DE APPR.		FWD X-TUBE LUG ASSY	NTS
DATE 11.0	02.22	COPYRIGHT © 2010 BY DART AEROSPACE LTD but podwings in Private Account of the Company of the Com	



